

FY2006

FORT A.P. HILL  
Bowling Green, Virginia  
INSTALLATION ACTION PLAN

Printed June 2005

---

## Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year Military Munitions Response Program for an installation. The plan will identify environmental cleanup requirements at each site or area of concern, and propose a comprehensive approach, with associated costs and schedules, to conduct investigations and necessary remedial actions.

In an effort to coordinate planning information between the U.S. Army Environmental Center (USAEC), Fort A.P. Hill, IMA, executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and tentative budgets for all major Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

**The following agencies contributed to the formulation and completion of this Installation Action Plan at the IAP Workshop held 15 February 2005:**

Fort A.P. Hill

North Environmental Regional Office

Engineering and Environment, Inc. for USAEC

URS Corporation

US Army Environmental Center

US Environmental Protection Agency, Region III

---

# Table of Contents

<i>Statement of Purpose</i> .....	1
<i>Acronyms &amp; Abbreviations</i> .....	3
<b>INSTALLATION INFORMATION</b> .....	5
<b>CLEANUP PROGRAM SUMMARY</b> .....	6
<i>ER,A Response Complete Sites List</i> .....	7
<b>MILITARY MUNITIONS RESPONSE PROGRAM</b>	
<i>MMRP Summary</i> .....	9
<i>MMRP Contamination Assessment</i> .....	10
<b>SITE DESCRIPTIONS</b>	
<i>FTAPH-001-R-01 Training Range Area 10</i> .....	12
<i>FTAPH-002-R-01 Training Range Area 16</i> .....	13
<i>FTAPH-003-R-01 Training Range Area 20 and 21</i> .....	14
<i>FTAPH-004-R-01 Training Range Area 30</i> .....	15
<b>SCHEDULE</b>	
<i>Past/Projected Milestones</i> .....	16
<i>Schedule Chart</i> .....	16-1
<b>COST</b>	
<i>Prior/Current Year Funding</i> .....	17
<b>COMMUNITY INVOLVEMENT</b>	
<i>Status</i> .....	18

<b>AEDB-R</b>	Army Environmental Database-Restoration
<b>AOC</b>	Area of Concern
<b>BRAC</b>	Base Realignment and Closure
<b>CERCLA</b>	Comprehensive Environmental Response Compensation and Liability Act (1980)
<b>CTC</b>	Cost-to-Complete
<b>cy</b>	cubic yards
<b>DA</b>	Department of Army
<b>DD</b>	Decision Document
<b>DoD</b>	Department of Army
<b>DPW</b>	Directorate of Public Works
<b>EOD</b>	Explosive Ordnance Disposal
<b>EPA</b>	(United States) Environmental Protection Agency
<b>ER,A</b>	Environmental Restoration, Army (formerly DERA)
<b>FFA</b>	Federal Facility Agreement
<b>FS</b>	Feasibility Study
<b>ft</b>	foot
<b>FUDS</b>	Formerly Used Defense Sites
<b>FY</b>	Fiscal Year
<b>gal</b>	gallon
<b>GW</b>	Groundwater
<b>HRS</b>	Hazard Ranking System
<b>IAP</b>	Installation Action Plan
<b>IRA</b>	Interim Remedial Action
<b>IRP</b>	Installation Restoration Program
<b>K</b>	\$1,000
<b>kg</b>	kilograms
<b>LTM</b>	Long-term Management
<b>MC</b>	Munitions Constituents
<b>MCL</b>	Maximum Contaminant Level
<b>MEC</b>	Munitions Explosives of Concern
<b>mg</b>	milligrams
<b>mm</b>	millimeter
<b>MMRP</b>	Military Munitions Response Program
<b>NE</b>	Not Evaluated
<b>NFA</b>	No Further Action
<b>NPL</b>	National Priorities List
<b>OU</b>	Operable Unit
<b>O&amp;M</b>	Operation & Maintenance
<b>PA</b>	Preliminary Assessment
<b>POL</b>	Petroleum, Oil & Lubricants
<b>POM</b>	Program Objective Memorandum (budget)
<b>PP</b>	Proposed Plan
<b>PY</b>	prior year
<b>RA</b>	Remedial Action
<b>RA(C)</b>	Remedial Action (Construction)
<b>RAB</b>	Restoration Advisory Board

<b>RC</b>	Response Complete
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RD</b>	Remedial Design
<b>REM</b>	Removal
<b>RFA</b>	RCRA Facility Assessment
<b>RI</b>	Remedial Investigation
<b>RIP</b>	Remedy in Place
<b>ROD</b>	Record of Decision
<b>RRSE</b>	Relative Risk Site Evaluation
<b>SARA</b>	Superfund Amendments and Reauthorization Act
<b>SI</b>	Site Inspection
<b>SVOC</b>	Semi-Volatile Organic Compounds
<b>SWMU</b>	Solid Waste Management Unit
<b>USACE</b>	United States Army Corps of Engineers
<b>USACHPPM</b>	United States Army Center for Health Promotion and Preventive Medicine (formerly USAEHA)
<b>USAEC</b>	United States Army Environmental Center
<b>USAEHA</b>	United States Army Environmental Hygiene Agency (now USACHPPM)
<b>UST</b>	Underground Storage Tank
<b>VOC</b>	Volatile Organic Compounds
<b>yr</b>	year

**INSTALLATION LOCALE:** Fort A.P. Hill, a U.S. Army training facility, is located in Caroline County, Virginia, approximately two miles north of the town of Bowling Green. The Installation encompasses approximately 76,000 acres and is bisected by U.S. Route 301, which connects Bowling Green and Port Royal, Virginia. The Installation is located approximately 75 miles south of Washington, D.C., and 40 miles north of Richmond, Virginia.

**INSTALLATION MISSION:** Fort A.P. Hill provides realistic joint and combined arms training, logistics and support, enabling America's Defense Forces to win on 21st Century battle space.

**COMMAND ORGANIZATION:**

Installation Management Agency, Northeast Region  
Fort A.P. Hill DPW, Environmental and Natural Resources Division

**REGULATOR PARTICIPATION:**

**Federal:** EPA Region III, Waste and Chemical Management Division

**State:** Virginia Department of Environmental Quality

**NPL STATUS:** Non-NPL

**RAB STATUS:** None

**PROGRAM SUMMARIES:**

**IRP**

Fort A.P. Hill at one time had 19 open ER,A sites. The last site was officially listed as response complete in December 1996.

**MMRP**

Contaminants of Concern: Metals  
Media of Concern: Soil  
Estimated date for RIP/RC: 201709  
Funding to Date: \$25K  
CTC: \$13,327K

**BRAC**

There are no identified BRAC sites located at Fort A.P. Hill.

## ***HISTORIC ACTIVITY:***

The Installation was established in June 1941 to provide a training area for infantry and artillery troops during World War II. Fort A.P. Hill is the one of the largest military installations on the East Coast, providing training grounds for, and testing of, a large variety of military forces. The portion of the Installation south of U.S. Route 301 is used for live-fire munitions training and access is strictly controlled. The northern portion of the Installation is used for non live-fire troop and vehicle training in a variety of wartime maneuver simulations. A barbed wire topped chain-link fence surrounds the Installation and access points to the Installation are blocked and controlled. The Installation is divided into Training Areas and Range Areas, within which specific training or live-fire activities occur. The public also utilizes selected training areas for recreational purposes. Recreational user access is controlled and tracked on a daily basis.

The training capacity of Fort A.P. Hill is considered critical to the ongoing mission of the U.S. military. The Installation's current mission is to provide an all-purpose, year-round joint training facility. Given the value of Fort A.P. Hill, it is unlikely to be closed in the foreseeable future. This information is critical in considering future plans regarding remediation (where applicable) at various sites. By virtue of ownership by the U.S. Government, potential exposure routes at individual SWMUs/AOCs are currently well controlled and will likely remain controlled.

## ***REGIONAL PHYSIOGRAPHY:***

Fort A.P. Hill is located within 100 miles of both the Blue Ridge Mountains and the Atlantic Ocean, in the Atlantic Coastal Plain physiographic province. The Installation lies within the Fall Zone, approximately 12 miles east of the Fall Line. The Fall Line marks the boundary of the Atlantic Coastal Plain to the east and the Piedmont physiographic province to the west. The Fall Zone is the transition zone between the Fall Line and areas further east within the Coastal Plain. The Coastal Plain physiographic province slopes gently seaward and is transected by a series of broad, seaward-facing terraces that trend north-to-south. This terrain includes rolling countryside to mostly level plains, interrupted by numerous shallow valleys. The elevation ranges from 10 feet above mean sea level to about 255 feet (PSA, 1999).

## ***PROGRAM PROGRESS:***

**IRP:** All sites are response complete.

**MMRP:** Three of the 4 MMRP site at Fort A.P. Hill were evaluated for the FUDS program and were found to be FUDS eligible (Training Range Areas 10, 16 & 30). DoD will have to approve the transfer of these three sites from the ER,A program to the FUDS program. The fourth site, Training Range Area 20 and 21, was not evaluated for FUDS because, while it is in the transferred category, it was used by the Army until 1996, making it ineligible for FUDS (to be FUDS eligible, property must not have been used after 1986). This site will remain in the ER,A program for A.P. Hill for now.

**BRAC:** There are no identified BRAC sites at Fort A.P. Hill.

### ER,A RESPONSE COMPLETE SITES

SITE	DESCRIPTION	RC DATE
FTAPH-1	BLDG 1233 DDT SPILL	198312
FTAPH-1A	OLD ENTOMOLOGY BUILDING	199612
FTAPH-2A	DIRECT SUPPORT MAINTENANCE SHOP	199309
FTAPH-3A	HEADQUARTERS DDT AREA	198801
FTAPH-4	HERBICIDE STOR SHED #225 DIOXIN CLEANUP	198912
FTAPH-4A	DIRTBRIDGE WAREHOUSE	198502
FTAPH-5	TAYLORS CORNER LANDFILL #2	199109
FTAPH-6	WOOD SCRAP YARD	199109
FTAPH-7	AMMUNITION SUPPLY PT. LANDFILL	199109
FTAPH-8	ACORS LANDFILL	198803
FTAPH-10	SALES CORNER LANDFILL	199109
FTAPH-11	TAYLORS CORNER LANDFILL #1	199109
FTAPH-12	PENDER CAMP LANDFILL	198903
FTAPH-13	DRAP ZONE LANDFILL	198803
FTAPH-14	WILCOX DRIVE LANDFILL	199207
FTAPH-15	IMPACT AREA AND RANGES	199009
FTAPH-100	HEADQUARTERS/ANDERSON STORAGE TANKS	199108
FTAPH-101	UST POL BLDG # 303	199104
FTAPH-102	CAMP SITE STORAGE TANKS	199104

# FORT A.P. HILL MILITARY MUNITIONS RESPONSE PROGRAM

***STATUS:*** Non-NPL

***AEDB-R SITES/SITES RC:*** 4/0

***AEDB-R SITE TYPES:***

3 Unexploded Munitions/Ordnance

1 Firing Range

***CONTAMINANTS OF CONCERN:*** MC

***MEDIA OF CONCERN:*** Soil

***COMPLETED REM/IRA/RA:*** None

***IDENTIFIED POSSIBLE REM/IRA/RA:*** None

***TOTAL MMRP FUNDING:***

PRIOR YEAR: \$ 25K

CURRENT: \$ 0K

FUTURE: \$13,327K

***DURATION OF MMRPP:***

Year of MMRP Inception: 2002

Year of RA Completion: 2017

Year of MMRP Completion: 2047

---

## MMRP Contamination Assessment

The Phase 3 Army Range Inventory was completed at Fort A.P. Hill in May 2003. The inventory identified four sites as eligible for the MMRP. The Phase 3 inventory serves as the PA under CERCLA. These four sites were transferred to Federal, state or local government several years ago and do not require extensive site characterization and investigations.

### ***CLEANUP EXIT STRATEGY:***

Based on the history and past use of these sites, a site investigation (SI) will be conducted at three of these sites (FTAPH-001-R-01, FTAPH-002-R-01 and FTAPH-004-R-01), possibly under the FUDS program, pending DoD approval. The remaining site, FTAPH-003-R-01, will stay in the ER,A program until the land transfer issue is resolved. A remedial investigation/feasibility study is scheduled to begin at this site in FY12.

FORT A.P. HILL  
MILITARY MUNITIONS RESPONSE  
PROGRAM  
SITE DESCRIPTIONS

# FTAPH-001-R-01

## TRAINING RANGE AREA 10

### SITE DESCRIPTION

Based on discussions with Fort A.P. Hill personnel, the Training Area 10 range encompassed 187.4 acres located on the northwest border of Fort A.P. Hill. This range was used as a light ground maneuver range from 1941 when Fort A.P. Hill opened until the range closed in 1953. In 1953, it was transferred to the Department of Commerce, which constructed and operates a geomagnetic center. The property is now known as the Department of Commerce Geomagnetic Center. The transfer was documented in accordance with public building services Order 1, Supplement 1, dated 16 April 1953, and based on the request from the Department of Commerce dated 7 April 1953. The total acreage transferred was 187.4 acres. The only munitions ever used in this area were 7.62 mm blanks, grenade and artillery simulators, and pop flares. As stated in the Report of Excess Real Property, dated January 1953, "The major portion of the land is heavily wooded although there are many areas of open land formerly used for agriculture purposes." There is no evidence that a Record of Environmental Consideration was done and no evidence of any archeological or historical sites, none of which were typically considered during this era.

### CLEANUP STRATEGY

A site investigation will be conducted in the future. This site has been recommended for the FUDS Program.

### STATUS

**RAC:** Low Risk

**CONTAMINANTS:** MC

**MEDIA OF CONCERN:** Soil

<b>PHASES</b>	<b>Start</b>	<b>End</b>
PA .....	200202 .....	200305
SI .....	200610 .....	200709
RI/FS .....	201110 .....	201209
RD .....	201510 .....	201609
RA(C) .....	201610 .....	201709

**RC: 201709**

# FTAPH-002-R-01

## TRAINING RANGE AREA 16

### SITE DESCRIPTION

Based on discussions with Fort A.P. Hill personnel, the Training Area 16 range was also known as the “Pettigrew Campsite” and encompassed 933.9 acres located on the northeast border of Fort A.P. Hill. The range also contained a cantonment area with the majority of the range used for light ground maneuver training from the acquisition of the property in 1950 to 1979 when it was transferred to the Commonwealth of Virginia, Commission of Game and Inland Fisheries, for the Wildlife Management Area. A quitclaim deed dated 15 October 1979, accomplished the transfer. The only munitions ever used in this area were 7.62 mm blanks, 5.56 mm blanks, grenade and artillery simulators, and pop flares. There is no evidence that a Record of Environmental Consideration was done, as they were not typically performed at that time. There is a small cemetery located within the area, which was there when the U.S. Army acquired the property. The number of burial sites and next of kin information is unknown.

### CLEANUP STRATEGY

A site investigation will be conducted in the future. This site has been recommended for the FUDS Program.

### STATUS

**RAC:** Negligible Risk

**CONTAMINANTS:** MC

**MEDIA OF CONCERN:** Soil

<b>PHASES</b>	<b>Start</b>	<b>End</b>
PA .....	200202 .....	200305
SI.....	200610 .....	200709
RI/FS.....	201110 .....	201209
RD.....	201510 .....	201609
RA(C) .....	201610 .....	201709
<b>RC: 201709</b>		

# FTAPH-003-R-01

## TRAINING RANGE AREA 20 AND 21

### SITE DESCRIPTION

Based on discussions with Fort A.P. Hill personnel, Training Range Areas 20 and 21 encompassed approximately 150 acres located in the center of Fort A.P. Hill. The area was used for light ground maneuver training from its acquisition in 1941 until 1996 when it was transferred to Caroline County which constructed a jail known as the Peumansend Regional Jail. The munitions that were used in this area included 7.62 mm blanks, 5.56 mm blanks, grenade and artillery simulators, and pop flares. However, during excavation of the building site in 1996, a 500-pound aerial bomb was uncovered. The 737th EOD was notified and the bomb was blown in place. A sweep of the area uncovered no further munitions. An Environmental Assessment was prepared with the results showing that no adverse environmental impact would result from the construction of the jail facility.

### STATUS

**RAC:** Low Risk

**CONTAMINANTS:** MC

**MEDIA OF CONCERN:** Soil

<b>PHASES</b>	<b>Start</b>	<b>End</b>
PA.....	200202.....	200305
RI/FS .....	201110.....	201209
RD .....	201510.....	201609
RA(C).....	201610.....	201709
LTM .....	201710.....	204709
<b>RC: 201709</b>		

### CLEANUP STRATEGY

The land was transferred in 1996. A remedial investigation/feasibility study is scheduled to begin in FY12.

# FTAPH-004-R-01

## TRAINING RANGE AREA 30

### SITE DESCRIPTION

Based on discussions with Fort A.P. Hill personnel, the Training Area 30 range encompassed approximately 95 acres located on the western border of Fort A.P. Hill. Forty acres of this area was used as a landfill by Caroline County under a lease agreement. The remainder of the parcel was used for light ground maneuver training from its acquisition in 1942 until 1985 when it was transferred to Caroline County for use as the Caroline County Landfill. A quitclaim deed dated 8 August 1985, accomplished the transfer. The only munitions ever used in this area were 7.62 mm blanks, 5.56 mm blanks, grenade and artillery simulators, and pop flares. There was a Record of Environmental Consideration completed with a negative finding.

### CLEANUP STRATEGY

A site investigation will be conducted in the future. Land transferred in 1985. This site has been recommended for the FUDS Program.

### STATUS

**RAC:** Low Risk

**CONTAMINANTS:** MC

**MEDIA OF CONCERN:** Soil

<b>PHASES</b>	<b>Start</b>	<b>End</b>
PA.....	200202.....	200305
SI .....	200610.....	200809
RI/FS .....	201110.....	201209
RD .....	201510.....	201609
RA(C).....	201610.....	201709
<b>RC:</b>	<b>201709</b>	

## PAST MILESTONES

MMRP Start Date: 2002

## PROJECTED MILESTONES

### *Phase Completion Milestones:*

SI	200709
RI/FS	201209
RD	201609
RA(C)	201709
LTM	204709

*ROD/DD Approval Dates:* N/A

*Completion Date of all RA(C) Activities:* 2017

*Completion Date of MMRP (including LTM phase):* 2047

# FORT A.P. HILL MMRP IAP SCHEDULE

(Based on current funding)

## CURRENT PHASE

## FUTURE PHASE

AEDBR#	PHASE	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
FTAPH-001-R-01	SI										
	RI/FS										
	RD										201609
	RA(C)										201709
FTAPH-002-R-01	SI										
	RI/FS										
	RD										201609
	RA(C)										201709
FTAPH-003-R-01	RI/FS										
	RD										201609
	RA(C)										201709
	LTM										204709
FTAPH-004-R-01	SI										
	RI/FS										
	RD										201609
	RA(C)										201709

### PRIOR YEAR FUNDING

**FY01-FY02** Phase 3 Army Range Inventory/PA  
FTAPH-001-R-01, FTAPH-002-R-01,  
FTAPH-003-R-01, and FTAPH-004-R-01 **\$25K**

### CURRENT YEAR FUNDING

FY05 \$0K

### FUTURE YEAR FUNDING

***TOTAL FUTURE REQUIREMENTS:*** \$13,327K

***TOTAL MMRP PROGRAM COSTS:*** \$13,352K

---

## Community Involvement

There is no community interest in the MMRP at Fort A.P. Hill at this time.